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The Trusted Integrator for Sustainable Solutions

February 8, 2010

Mr. Steven L. Renninger
On-Scene Coordinator
Emergency Response Branch
U.S. Environmental Protection Agency Region V
26 West Martin Luther King Drive, Office G-41
Cincinnati, OH 45268

Subject: Site Assessment Report
Cincinnati Die Cast Site
Cincinnati, Hamilton County, Ohio
Technical Direction Document No.: S05-0001-0909-023
Document Control No.: 779-2A-ADNS

Dear Mr. Renninger:

The Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) is submitting the enclosed site assessment report for the Cincinnati Die Cast Site in Cincinnati, Hamilton County, Ohio. If you have any questions or comments regarding the report or need additional copies, please contact me at (937) 602-3089.

Sincerely,
WESTON SOLUTIONS, INC.

Randy Kirkland
WESTON START Project Manager

Enclosure

cc: WESTON START DCN File

SITE ASSESSMENT REPORT
FOR
CINCINNATI DIE CAST SITE
CINCINNATI, HAMILTON COUNTY, OHIO
SITE ID: B5TZ

NPL STATUS: NON-NPL

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V
Emergency Response Branch
26 West Martin Luther King Drive, Office G-41
Cincinnati, Ohio 45268

Prepared by:

WESTON SOLUTIONS, INC.
4710-A Interstate Drive
Cincinnati, Ohio 45246

Date Prepared	February 8, 2010
TDD Number	S05-0001-0909-023
Document Control Number	779-2A-ADNS
Contract Number	EP-S5-06-04
START Project Manager	Randy Kirkland
Telephone Number	(937) 602-3089
U.S. EPA On-Scene Coordinator	Steven L. Renninger

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Reviewed by: _____ Date: February 8, 2010
John Sherrard
WESTON START Project Leader

Prepared and
Approved by: _____ Date: February 8, 2010
Randy Kirkland
WESTON START Project Manager

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degree Fahrenheit
BUSTR	Bureau of Underground Storage Tank Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFD	Cincinnati Fire Department
CFR	*Code of Federal Regulations*
DRO	Diesel-range organics
GRO	Gasoline-range organics
mg/kg	Milligram per kilogram
mg/L	Milligram per liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OSC	On-Scene Coordinator
PCB	Polychlorinated biphenyl
RCRA	Resource Conservation and Recovery Act
START	Superfund Technical Assessment and Response Team
TCLP	Total Characteristic Leaching Procedure
TDD	Technical Direction Document
TPH	Total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
U.S. EPA	United States Environmental Protection Agency
UST	Underground storage tank
VOC	Volatile organic compound
WESTON	Weston Solutions, Inc.

1. INTRODUCTION

Under Technical Direction Document (TDD) No. S05-0001-0909-023, the United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to perform a site assessment for the Cincinnati Die Cast Site in Cincinnati, Hamilton County, Ohio (the Site). Specifically, WESTON START was directed to perform the following activities:

- Compile available site information;
- Develop site-specific safety and sampling plans;
- Perform a site reconnaissance;
- Collect aqueous and non-aqueous liquid and bulk samples;
- Procure analytical laboratory services;
- Provide photographic documentation of the Site (Appendix A);
- Provide a written log documenting all on-site activities;
- Validate analytical data (Appendix B);
- Evaluate potential threats posed by the Site to human health and the environment; and
- Prepare and deliver this site assessment report.

The site assessment was performed to evaluate Site conditions and possible threats to human health, public welfare, and the environment in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Title 40 of the *Code of Federal Regulations* (CFR), Part 300.415(b)(2).

This site assessment report is organized into the following sections:

- **Introduction** – Provides a brief description of the objective and scope of site assessment activities;
- **Site Background** – Details the Site description and history;
- **Site Assessment Activities** – Discusses the observations, methods, and procedures used during the site assessment;
- **Analytical Results** – Discusses analytical results for samples collected during the site assessment;

- **Threats to Human Health and the Environment** – Identifies conditions at the Site that warrant a removal action under the NCP; and
- **Conclusions and Recommendations** – Provides a summary of the site assessment findings and recommendations for further Site activities as needed.

Figures and tables are presented after the conclusions and recommendations. Appendix A of this report provides photographic documentation of Site conditions and site assessment activities. Appendix B provides a copy of the data validation report and validated analytical results for samples collected during the site assessment.

2. SITE BACKGROUND

This section discusses the Site description and history.

2.1 SITE DESCRIPTION

The Site is located at 4524 West Mitchell Avenue in Cincinnati, Hamilton County, Ohio (Figure 1). The geographical coordinates for the Site are 39.170143° North latitude and 84.514274° West longitude. The Site occupies approximately 1.5 acres in a mixed residential/commercial area. The Site contains one building of approximately 58,000 square feet constructed in 1929 (Figure 2). The structurally impaired building has a slab concrete foundation, concrete and brick walls, and a wooden roof that has collapsed at numerous locations. During the site assessment, WESTON START observed debris inside the building that included 55-gallon drums, abandoned containers, automobile batteries, wood, general debris, waste piles, process equipment, roofing tiles, scrap wire, and trash. WESTON START also observed evidence of trespassing inside the building and an underground storage tank (UST) at the Site.

The Site has been temporarily secured by the Cincinnati Fire Department (CFD).

2.2 SITE HISTORY

From 1937 to 1975, the Union Iron and Steel Company conducted carbon base steel, brass, and aluminum die casting operations at the Site. From approximately 1980 to 2003, the Cincinnati Die Cast Company conducted aluminum die casting operations at the Site. Equipment used at the Site included two casting furnaces, lathes, piping and conduits for machinery, and a coolant trench in the area around the lathes (Figure 2). Hamilton County Auditor records show that Reuban Peppers purchased the Site property in December 2004.

The CFD inspected the Site in August 2006 and noted that the building was being used as a scrap processing facility. The CFD also noted that the building contained no running water and that egress doors did not work.

On April 26, 2007, the CFD responded to a fire at the Site. As a result of the fire, the CFD and the Cincinnati Building Department conducted a second site inspection on May 14, 2007. In addition, the Ohio Fire Marshal-Bureau of Underground Storage Tank Regulations (BUSTR) inspected the Site on June 4, 2007. BUSTR identified one on-site UST containing waste oil (Figure 2). BUSTR issued a notice of violation for (1) failure to manage an UST that had been out of service for more than 12 months and (2) failure to provide registration or insurance certification.

On July 24, 2007, the CFD issued a second letter to the Site owner ordering that no further work be conducted at the Site and that all personnel vacate the Site premises. The CFD based the second letter on the following code violations:

- Unsafe conditions;
- Defective fire protection equipment;
- Faulty egress doors; and
- Lack of a UST removal plan.

On February 23, 2009, the City of Cincinnati Division of Property Maintenance Code Enforcement condemned the Site building because of dangerous and unsafe conditions.

In a letter dated October 6, 2009, CFD requested assistance from U.S. EPA Region V Superfund Division in conducting a potential time-critical removal action at the Site involving unsecured 55-gallon drums, abandoned containers containing paints and oils, a UST containing oil and sludge, numerous automobile batteries, and unidentified gas cylinders.

3. SITE ASSESSMENT ACTIVITIES

The site assessment consisted of a site reconnaissance and a field sampling event conducted on September 30, 2009. Each activity was conducted to evaluate potential threats to human health and the environment posed by the Site. The following sections discuss site reconnaissance observations (Section 3.1) and field sampling activities (Section 3.2). Appendix A provides photographic documentation of Site conditions and activities at the time of the site assessment.

3.1 SITE RECONNAISSANCE OBSERVATIONS

On September 30, 2009, U.S. EPA On-Scene Coordinator (OSC) Steve Renninger, WESTON START, and CFD Chief Duane Herth conducted the site reconnaissance. The purpose of the site reconnaissance was to determine Site conditions and sampling locations. Figure 2 presents a Site layout map that shows many of the features discussed below.

During the site reconnaissance, the Site building was in a dilapidated condition. WESTON START observed a general lack of Site security and controls and evidence of trespassing and vandalism throughout the interior and exterior of the on-site building. Approximately half of the building's windows were broken or missing. Approximately 80 percent of the building appeared to consist of warehouse space used for indoor scrapping operations. The remaining 20 percent of the building consisted of unused office space. Large portions of the building's roof were missing, and rain water was present in trenches in the floor. The trenches contained oil, water, and debris. The building floor was stained with oil in many places.

The Site building contained approximately 75 55-gallon unlabeled drums and numerous small containers with volumes of 5 gallons or less of used oil, paints, and solvents. The 55-gallon drums were unlabeled, and several drums were uncovered, deteriorated, and leaking. One 55-gallon drum was located outside the building next to the north wall.

Uncontainerized waste piles were located in and around former die casting furnaces near the southeast corner of the building. In addition, coolant trenches containing approximately 5,000

gallons of oil, water, and mixed debris were located near the waste piles and throughout the southern portion of the building.

One open-top tank with an estimated capacity of 100 gallons was located in the eastern portion of the building. The tank was approximately half full with waste oil. In addition, one UST in the western portion of the building contained approximately 2,000 gallons of waste oil and sludge.

WESTON START observed numerous debris piles containing drums, batteries, unidentified gas cylinders, wood, waste piles, scrap wire, electrical equipment, vegetation, trash, and evidence of former burn piles throughout the building. Approximately 900 cubic yards of non-hazardous waste and debris is present at the Site. Debris piles along the north wall of the building contained automobile batteries, tires, and paint wastes.

WESTON START observed two deteriorated die-casting pressure vessels of about 1,000 to 2,000 gallons near the southeast corner of the building. The contents of the pressure vessels had spilled onto the floor.

3.2 FIELD SAMPLING EVENT ACTIVITIES

To evaluate whether the Site poses a threat to human health and the environment, WESTON START collected 14 samples of suspected hazardous liquid and solid constituents from various locations throughout the Site. WESTON START donned Level D modified personal protection equipment to collect the samples. All liquid samples were collected using a dedicated glass drum thief, and all solid samples were collected using a dedicated plastic scoop. A fresh pair of sampling gloves was donned before the collection of each sample.

WESTON START collected the solid samples from the six locations summarized below. Figure 3 shows the suspected hazardous materials sampling locations.

- Sample CDC-WS1-093009 was collected from a burn and debris pile near the southeast corner of the building's warehouse space. The sample was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) lead.

- Sample CDC-WS2-093009 was collected from soil and debris in an in-floor trench near the southeast corner of the building's warehouse space. The sample was analyzed for TCLP lead.
- Sample CDC-WS3-093009 was collected from floor sweepings, sludge, and debris in an in-floor trench along the southern wall of the building's warehouse space. The sample was analyzed for TCLP lead.
- Sample CDC-WS4-093009 was collected from a sediment and debris pile in the former transformer area in the southeast corner of the building's warehouse space. The sample was analyzed for total polychlorinated biphenyls (PCB).
- Sample CDC-WS5-093009 was collected from solid material in an unmarked fiber drum near the southeast corner of the building's warehouse space. The sample was analyzed for TCLP Resource Conservation and Recovery Act (RCRA) metals.
- Sample CDC-WS6-093009 was collected from solid material in the die-casting pressure vessel near the southeast corner of the building's warehouse space. The sample was analyzed for TCLP RCRA metals.

WESTON START collected the liquid samples from the eight locations summarized below. Figure 3 shows the suspected hazardous materials sampling locations.

- Sample CDC-WL1-093009 was collected from the UST near the northwest corner of the building's warehouse space. The sample was analyzed for total PCBs, total petroleum hydrocarbons (TPH), and total RCRA metals.
- Sample CDC-WL3-093009 was collected from a small container labeled "Paint Thinner" near the west wall of the building's warehouse space. The sample was analyzed for flashpoint and total volatile organic compounds (VOC).
- Sample CDC-WL4-093009 was collected from a small container labeled "Bonding Adhesive" near the west wall of the building's warehouse space. The sample was analyzed for flashpoint.
- Sample CDC-WL6-093009 was collected from an open 30-gallon drum near the southeast corner of the building's warehouse space. The sample was analyzed for total PCBs and TPH.
- Sample CDC-WL7-093009 was collected from a 75-gallon open-top rectangular tank near the southeast corner of the building's warehouse space. The sample was analyzed for TPH.
- Sample CDC-WL8-093009 was collected from a 55-gallon drum outside the building along the northern wall of the building's warehouse space. The sample was analyzed for flashpoint, total PCBs, and total VOCs.
- Sample CDC-WL9-093009 was collected from an open and deteriorated 55-gallon drum near the south wall of the building's warehouse space. The sample was analyzed for total RCRA metals.

- Sample CDC-WL10-093009 was collected from a small container labeled "Paint Thinner" near the west wall of the building's warehouse space. The sample was analyzed for flashpoint.

4. ANALYTICAL RESULTS

This section discusses the laboratory analytical results for samples collected from the Site. TestAmerica Laboratories located at 4738 Gateway Circle in Dayton, Ohio, analyzed all the samples. Table 1 summarizes the analytical results for the solid suspected hazardous materials samples, and Table 2 summarizes the analytical results for the liquid suspected hazardous material samples. Appendix B provides the data validation report and the validated analytical results. The analytical results for the samples are discussed below.

Sample CDC-WS4-093009 was analyzed for PCBs using U.S. EPA SW-846 Method 8082. The analytical result for sample CDC-WS4-093009 was less than 0.153 milligram per kilogram (mg/kg). This result indicates that the material associated with the sample is not contaminated with PCBs.

All samples were analyzed for TCLP metals using U.S. EPA SW-846 Method 6010B. Samples CDC-WS1-093009, CDC-WS2-093009, and CDC-WS3-093009 yielded TCLP lead results of 0.559, less than 0.4, and 2.45 milligrams per liter (mg/L), respectively. According to 40 CFR 261.24(b), a solid waste exhibits the characteristic of toxicity if the TCLP lead value exceeds the TCLP regulatory limit of 5.0 mg/L for lead stated in 40 CFR 261.24, Table 1. Samples CDC-WS1-093009, CDC-WS2-093009, and CDC-WS3-093009 TCLP lead concentrations are below the regulatory limit; therefore, by definition, the materials sampled are not considered hazardous wastes.

Sample CDC-WS6-093009 yielded a TCLP cadmium concentration of 1.25 mg/L. According to 40 CFR 261.24(b), a solid waste exhibits the characteristic of toxicity if the TCLP cadmium value exceeds the TCLP regulatory limit of 1.0 mg/L for cadmium stated in 40 CFR 261.24, Table 1; therefore, the material associated with sample CDC-WS6-093009 is defined as a hazardous waste.

Sample CDC-WS5-093009 yielded TCLP RCRA metal concentrations less than the TCLP regulatory limits stated in 40 CFR 261.24, Table 1; therefore, the material associated with sample CDC-WS5-093009 is not defined as a hazardous waste.

Samples CDC-WL3-093009, CDC-WL4-093009, CDC-WL8-093009, and CDC-WL10-093009 were analyzed for flashpoint using U.S. EPA Method 1010. Samples CDC-WL3-093009, CDC-

WL4-093009, CDC-WL8-093009, and CDC-WL10-093009 yielded flashpoints results of 111, 123.6, 141.6, and 93 degrees Fahrenheit (°F), respectively. According to 40 CFR 261.21(a)(1), a liquid having a flashpoint less than 140 °F exhibits the characteristic of ignitability; therefore, the liquids associated with samples CDC-WL3-093009, CDC-WL4-093009, and CDC-WL10-093009 are considered hazardous wastes. Because the flashpoint of sample CDC-WL8-093009 exceeded 140 °F, the liquid associated with this sample is not considered a hazardous waste.

Samples CDC-WL1-093009, CDC-WL6-093009, and CDC-WL8-093009 were analyzed for PCBs using U.S. EPA SW-846 Method 8082. Samples CDC-WL1-093009, CDC-WL6-093009, and CDC-WL-093009 yielded PCB results of less than 1.91, less than 0.983, and less than 0.886 mg/kg, respectively. According to the Toxic Substances Control Act (TSCA) regulations promulgated under 40 CFR Part 761.125 (a), "the reporting, disposal, and precleanup sampling requirements...apply to all spills of PCBs at concentrations of 50 ppm or greater which are subject to decontamination requirements under TSCA." All sample results were below the TSCA regulatory limit; therefore, the oils associated with these samples are not subject to hazardous waste regulation and can be removed and disposed of as non-hazardous waste oil.

Samples CDC-WL1-093009, CDC-CDC-WL6-093009, and CDC-WL7-093009 were analyzed for TPH using U.S. EPA SW-846 Method 8015B. Sample CDC-WL1-093009 yielded the following results: gasoline-range organics (GRO) (C6 through C12) at 259 mg/kg; diesel-range organics (DRO) (C10 through C20) at 69,300 mg/kg; DRO (C20 through C34) at 787,000 mg/kg; and overall DRO at 500,000 mg/kg. Sample CDC-WL6-093009 yielded the following results: GRO (C6 through C12) at less than 121 mg/kg; DRO (C10 through C20) at 16,800 mg/kg; DRO (C20 through C34) at 63,700 mg/kg; and overall DRO at 75,000 mg/kg. Sample CDC-WL7-093009 yielded the following results: GRO (C6 through C12) at less than 120 mg/kg; DRO (C10 through C20) at 12,200 mg/kg; DRO (C20 through C34) at 67,500 mg/kg; and overall DRO at 80,000 mg/kg.

Samples CDC-WL1-093009 and CDC-WL9-093009 were analyzed for total RCRA metals using U.S. EPA SW-846 Method 6010B. Sample CDC-WL1-093009 yielded the following results: barium at 27 mg/kg, chromium at 19.0 mg/kg, lead at 126 mg/kg, and mercury at 0.256 mg/kg. All other RCRA metals results for sample CDC-WL1-093009 were below the analytical method

reporting limits. All RCRA metals results for sample CDC-WL9-093009 were below the analytical method reporting limits.

Samples CDC-WL3-093009 and CDC-WL8-093009 were analyzed for total VOCs using U.S. EPA SW-846 Method 8260A. Sample CDC-WL3-093009 yielded the following results: sec-butylbenzene at 14 mg/kg; ethylbenzene at 92.6 mg/kg; isopropylbenzene at 21.4 mg/kg; p-isopropyltoluene at 15.4 mg/kg; n-propylbenzene at 44.6 mg/kg; toluene at 79.5 mg/kg; 1,2,4-trimethylbenzene at 2,890 mg/kg; 1,3,5-trimethylbenzene at 73.9 mg/kg; and total xylenes at 1,920 mg/kg. Sample CDC-WL8-093009 yielded the following results: 1,2,4-trimethylbenzene at 1.95 mg/kg; 1,3,5-trimethylbenzene at 0.557 mg/kg; and total xylenes at 1.27 mg/kg. All other VOC results for samples CDC-WL3-093009 and CDC-WL8-093009 were below the analytical method reporting limits.

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Factors to be considered when determining the appropriateness of a potential removal action at a site are delineated in the NCP at 40 CFR 300.415(b)(2). The factors applicable to the Site are summarized below.

- **Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants**

  During the site assessment, access to the Site building was unrestricted, and building doors and windows were broken, with evidence of trespassing. WESTON START noted abandoned wastes including drums, tanks, containers, uncontainerized waste piles, unidentified gas cylinders, automobile batteries, wood, scrap wire, electrical equipment, vegetation, and trash.

  Approximately 75 unknown drums and containers were documented inside the vacant on-site building. One 55-gallon drum with unknown contents was located outside the building next to its north wall. Drums were deteriorated, and drum contents had spilled onto floor and drain areas. The structurally impaired on-site building occupies 58,000 square feet, and sections of its roof over waste storage areas had collapsed. Uncontainerized waste piles surrounded the die-casting pressure vessel, and trenches were filled with oil, water, and debris.

  Oil staining on the building floor was documented at numerous locations from scrap operations.

  Laboratory analysis of samples collected during the site assessment yielded the results summarized below.

  - Samples CDC-WL3-093009, CDC-WL4-093009, and CDC-WL10-093009 had flashpoints of 111, 123.6, and 93 °F, respectively, indicating that the liquid wastes associated with these samples are hazardous for the characteristic of ignitability.
  - Sample CDC-WS6-093009 yielded a TCLP cadmium concentration of 1.25 mg/L, which exceeds the TCLP cadmium regulatory level of 1.0 mg/L; therefore, the waste associated with this sample is hazardous for toxicity.

  Inhalation of high levels of cadmium can severely damage the lungs. Ingesting food or water with very high cadmium levels severely irritates the stomach, leading to vomiting and diarrhea. Long-term exposure to lower levels of cadmium in air, food, or water results in the buildup of cadmium in the kidneys and possible kidney disease. Other long-term cadmium health effects are lung damage and fragile bones. The Department of Health and Human Services has determined that cadmium and cadmium compounds are known human carcinogens.

  The unrestricted Site access has resulted in trespassing and accidental or intentional releases of hazardous materials, and contact with hazardous materials is possible.

Commercial areas are located within 40 feet of the Site. Residential areas are located within 300 feet of the Site. The proximity of these areas to the Site greatly increases the likelihood of human health and environmental impacts if a release occurs. Rainwater has entered on-site trenches in the building where the roof had collapsed. These trenches potentially empty into the storm sewer or adjacent parking lot. Potential exposure could occur through these migration pathways and cause imminent endangerment to human health and the environment.

The CFD temporarily secured the Site on September 30, 2009, but CFD noted that access easily could be obtained to the Site premises. Exposure pathways include direct contact and inhalation associated with uncontrolled hazardous wastes in and around the Site building.

- **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that pose a threat of release**

  During the site assessment, WESTON START observed and documented the presence of two deteriorated die-casting pressure vessels (with capacities of 1,000 to 2,000 gallons). The contents of the vessels had spilled onto the floor. WESTON START also observed approximately 75 drums and small containers throughout the on-site building. One large UST was sampled and found to contain waste oil. Site assessment sampling results document the presence of ignitable and hazardous (for TCLP cadmium) wastes at the Site. Drums, containers, and uncontainerized waste piles are uncovered, and drums and containers are deteriorated. Further deterioration could allow additional quantities of hazardous substances to migrate into the environment. Based on these factors, hazardous substances, pollutants, and contaminants in varying forms and quantities are documented at the Site. Continued vandalism and trespassing could result in accidental or intentional releases of hazardous materials, contact with hazardous materials, and a reaction generating toxic gases. The proximity of the Site to adjacent commercial and residential areas greatly increases potential threats to human health and the environment if a release occurs.

- **Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released**

  Southwestern Ohio receives a substantial amount of precipitation during spring, and winter temperatures are normally below freezing, with regular snowfall. Weather conditions will continue to contribute to the deterioration of the on-site building and drums. Precipitation will continue to spread contamination from waste piles in the Site building. Rainwater has entered on-site trenches in the building where the roof had collapsed. These trenches potentially empty into the storm sewer or adjacent parking lot.

- **Threat of fire or explosion**

  A fire occurred at the Site on April 26, 2007. The Site lacks a fire suppression system. In addition, the Site contains abandoned solvents. Laboratory analytical results for samples collected during the site assessment document flashpoints as low as 93 °F,

indicating that some wastes are hazardous for the characteristic of ignitability; therefore, the potential for a fire or explosion exists. If such an event occurs, contaminants could become airborne and may affect the nearby population.

- **The availability of other appropriate federal or state response mechanisms to respond to the release**

  In a letter dated October 6, 2009, the CFD requested assistance from U.S. EPA in conducting a potential time-critical removal action at the Site involving uncontrolled hazardous wastes.

6. CONCLUSIONS AND RECOMMENDATIONS

This section summarizes conclusions based on site assessment findings and provides recommendations for further site activities.

6.1 CONCLUSIONS

The site assessment consisted of a site reconnaissance and a field sampling event conducted on September 30, 2009. During the field sampling event, WESTON START collected 14 samples of suspected hazardous liquid and solid constituents from various locations throughout the Site. Significant analytical results are summarized below.

- Samples CDC-WL3-093009, CDC-WL4-093009, and CDC-WL10-093009 had flashpoints of 111, 123.6, and 93 °F, respectively, and therefore are hazardous for the characteristic of ignitability.
- Sample CDC-WS6-093009 had a TCLP cadmium concentration of 1.25 mg/L, which exceeds the TCLP regulatory level for cadmium of 1.0 mg/L; therefore, the material associated with the sample is defined as hazardous for the characteristic of toxicity.

Based on analytical results and Site conditions during the site assessment, the Site meets five criteria for a removal action pursuant to 40 CFR 300.415(b)(2). The wastes detected at the Site pose an imminent health threat and present a danger to the public and the environment.

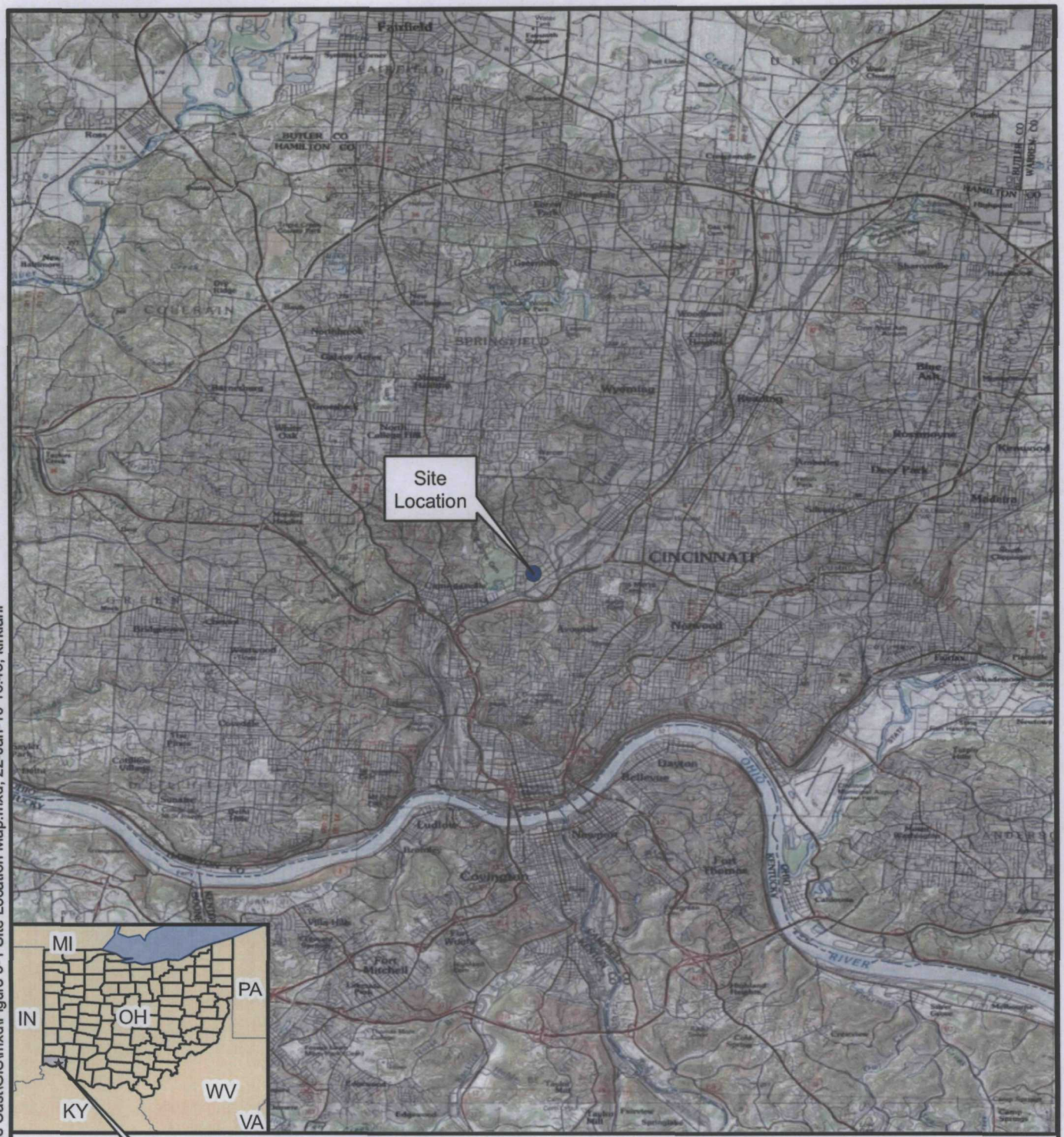
6.2 RECOMMENDATIONS

WESTON START recommends the following actions:

- Develop and implement a Site security plan;
- Inventory and perform hazard characterization on all substances contained in containers, drums, waste piles, tanks, and trenches at the Site;
- Consolidate and package all hazardous substances, pollutants and contaminants for transportation and off-site disposal;
- Dismantle and decontaminate process equipment, tanks, and building components associated with process areas as necessary;
- Transport and dispose of all characterized and identified hazardous substances, pollutants, wastes, and contaminants to a RCRA-approved or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-approved disposal facility in accordance with U.S. EPA's Off-Site Rule (40 CFR Section 300.440);

- Develop and implement a site-specific health and safety plan, including an air monitoring plan and an emergency contingency plan, for all on-site activities; and
- Take any other response actions needed to address any release or threatened release of hazardous substances, pollutants, and contaminants that the U.S. EPA OSC determines may pose an imminent and substantial endangerment to public health or the environment.

FIGURES



File: C:\START Project Files\Cincinnati Die Cast\GIS\mxd\Figure 3-1 Site Location Map.mxd, 22-Jan-10 16:45, kirklanr

Image Source:
National Geographic Society

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Prepared for:
U.S. EPA Region 5
Contract No: EP-S5-06-04

TDD No.: S05-0001-0909-023
DCN: 779-2A-ADNS

Prepared by:
Weston Solutions, Inc.

Figure 1
Site Location Map
Cincinnati Die Cast Site
Cincinnati, Hamilton County, Ohio

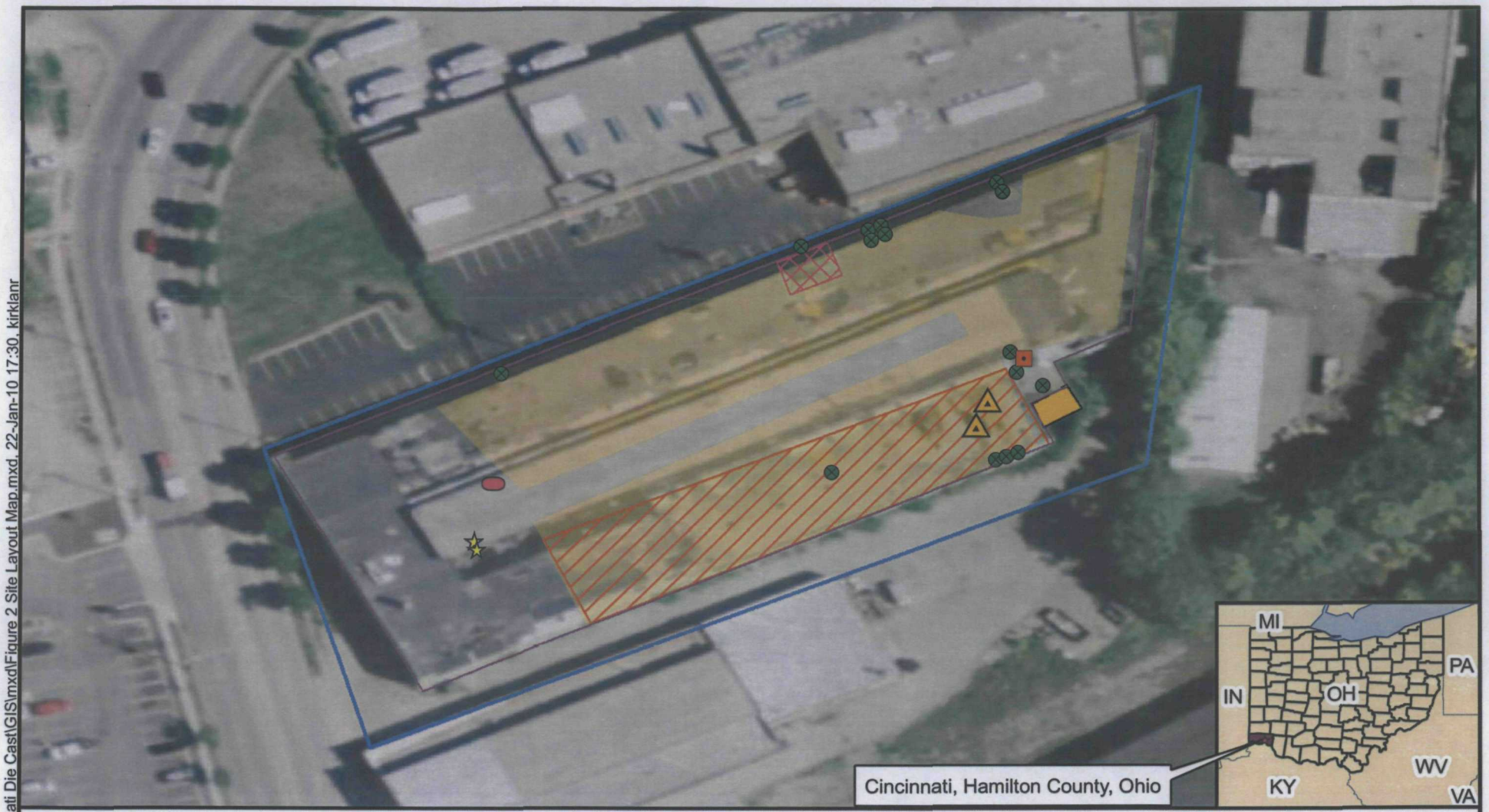

Image Source: GlodeXplorer

Legend

- Drum
- Open Tank
- Small Container
- UST
- Die-Casting Pressure Vessel
- Debris/Burn Pile Area
- Batteries
- Coolant Trench Area
- Former Transformer Area
- Facility Outline
- Site Boundary

N

0 50 100 Feet

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Figure 2
Site Layout Map
Cincinnati Die Cast Site
Cincinnati, Hamilton County, Ohio

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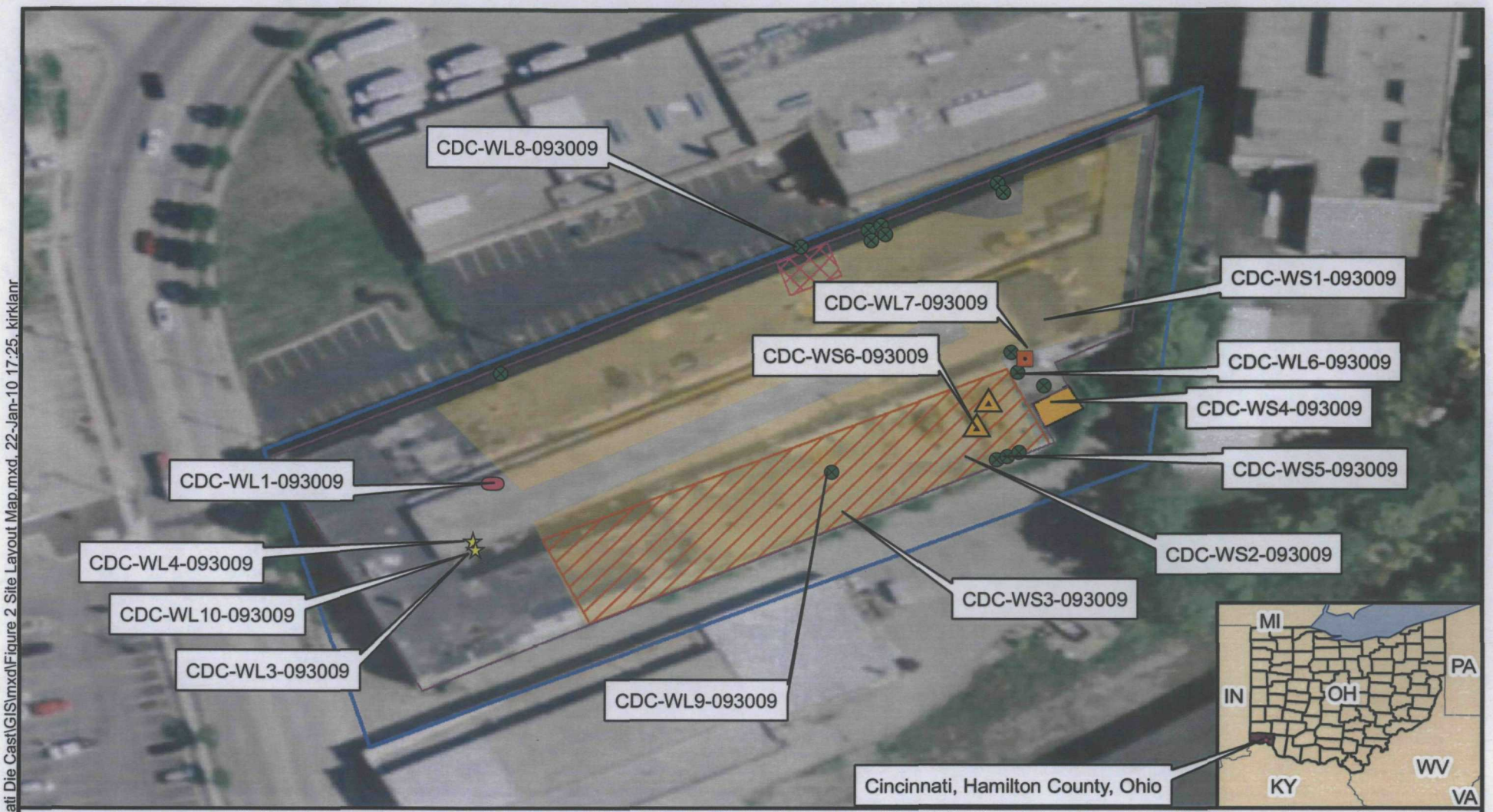

Image Source: GlodeXplorer

Legend

- Drum
- Open Tank
- Small Container
- UST
- Die-Casting Pressure Vessel
- Debris/Burn Pile Area
- Batteries
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0 50 100 Feet

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Prepared by:
Weston Solutions, Inc.

Figure 3
Suspected Hazardous Materials
Sampling Location Map
Cincinnati Die Cast Site
Cincinnati, Hamilton County, Ohio

File: C:\START Project Files\Cincinnati Die Cast\GIS\mxd\Figure 2 Site Layout Map.mxd, 22-Jan-10 17:25, kirklanr

TABLES

TABLE 1
ANALYTICAL RESULTS SUMMARY FOR SOLIDS SAMPLING
CINCINNATI DIE CAST SITE
CINCINNATI, HAMILTON COUNTY, OHIO

Parameter	Regulatory Limit	Sample Designation					
		CDC-WS1-093009	CDC-WS2-093009	CDC-WS3-093009	CDC-WS4-093009	CDC-WS5-093009	CDC-WS6-093009
Container Type		Burn/Debris Pile	In-floor Trench	In-floor Trench	Sediment/ Debris Pile	Fiber Drum	Die-casting Pressure Vessel
Label Information		NA	NA	NA	NA	NA	NA
Total PCBs (mg/kg)	NA	NA	NA	NA	<0.153	NA	NA
TCLP RCRA Metals (mg/L)							
Arsenic	5	NA	NA	NA	NA	<0.5	<0.5
Barium	100	NA	NA	NA	NA	1.57	0.191
Cadmium	1	NA	NA	NA	NA	<0.15	1.25
Chromium	5	NA	NA	NA	NA	<0.2	0.234
Lead	5	0.559	<0.4	2.45	NA	<0.4	<0.4
Mercury	0.2	NA	NA	NA	NA	<0.001	<0.001
Selenium	1	NA	NA	NA	NA	<0.5	<0.5
Silver	5	NA	NA	NA	NA	<0.2	<0.2

Notes:
Bold shaded result exceeds the regulatory limit.
mg/kg = Milligram per kilogram
mg/L = Milligram per liter
NA = Not analyzed or not applicable
PCB = Polychlorinated biphenyl
RCRA = Resource Conservation and Recovery Act
TCLP = Toxicity Characteristic Leaching Procedure

TABLE 2
ANALYTICAL RESULTS SUMMARY FOR LIQUIDS SAMPLING
CINCINNATI DIE CAST SITE
CINCINNATI, HAMILTON COUNTY, OHIO

Parameter	Regulatory Limit	Sample Designation							
		CDC-WL1-093009	CDC-WL3-093009	CDC-WL4-093009	CDC-WL6-093009	CDC-WL7-093009	CDC-WL8-093009	CDC-WL9-093009	CDC-WL10-093009
Container Type		UST	1-gallon Container	5-gallon Bucket	30-gallon Drum	75-gallon Open Rectangular Tank	55-gallon Drum	55-gallon Drum	1-gallon Container
Label Information		NA	Paint Thinner	Bonding Adhesive	NA	NA	NA	NA	Paint Thinner
Flashpoint (°F)	<140 °F	NA	**111**	**123.6**	NA	NA	141.6	NA	[redacted]
Total PCBs (mg/kg)	50	<1.91	NA	NA	<0.983	NA	<0.886	NA	NA
TPH (mg/kg)									
GRO (C6-C12)	NA	259	NA	NA	<121	<120	NA	NA	NA
DRO (C10-C20)	NA	69,300	NA	NA	16,800	12,200	NA	NA	NA
DRO (C20-C34)	NA	787,000	NA	NA	63,700	67,500	NA	NA	NA
DRO	NA	500,000	NA	NA	75,000	80,000	NA	NA	NA
Total RCRA Metals (mg/kg)									
Arsenic	NA	<33.1	NA	NA	NA	NA	NA	<51.3	NA
Barium	NA	27	NA	NA	NA	NA	NA	<10.3	NA
Cadmium	NA	<9.94	NA	NA	NA	NA	NA	<15.4	NA
Chromium	NA	19	NA	NA	NA	NA	NA	<20.5	NA
Lead	NA	126	NA	NA	NA	NA	NA	<41.0	NA
Mercury	NA	0.256	NA	NA	NA	NA	NA	<0.0131	NA
Selenium	NA	<33.1	NA	NA	NA	NA	NA	<51.3	NA
Silver	NA	<13.2	NA	NA	NA	NA	NA	<20.5	NA
Total VOCs (mg/kg)									
sec-Butlybenzene	NA	NA	14	NA	NA	NA	<0.203	NA	NA
Ethylbenzene	NA	NA	92.6	NA	NA	NA	<0.203	NA	NA
Isopropylbenzene	NA	NA	21.4	NA	NA	NA	<0.203	NA	NA
p-Isopropyltoluene	NA	NA	15.4	NA	NA	NA	<0.203	NA	NA
n-Propylbenzene	NA	NA	44.6	NA	NA	NA	<0.203	NA	NA
Toluene	NA	NA	79.5	NA	NA	NA	<0.203	NA	NA
1,2,4-Trimethylbenzene	NA	NA	2,890	NA	NA	NA	1.95	NA	NA
1,3,5-Trimethylbenzene	NA	NA	73.9	NA	NA	NA	0.557	NA	NA
Xylenes, total	NA	NA	1,920	NA	NA	NA	1.27	NA	NA

Notes:

Bold shaded results exceed regulatory limits
°F = Degree Fahrenheit
DRO = Diesel-range organics
GRO = Gasoline-range organics
mg/kg = Milligram per kilogram
NA = Not analyzed or not applicable
PCB = Polychlorinated biphenyl
RCRA = Resource Conservation and Recovery Act
TPH = Total petroleum hydrocarbons
UST = Underground storage tank
VOC = Volatile organic compound

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

Site: Cincinnati Die Cast Site
Photograph No.: 1
Direction: Northwest
Subject: Debris piles inside building

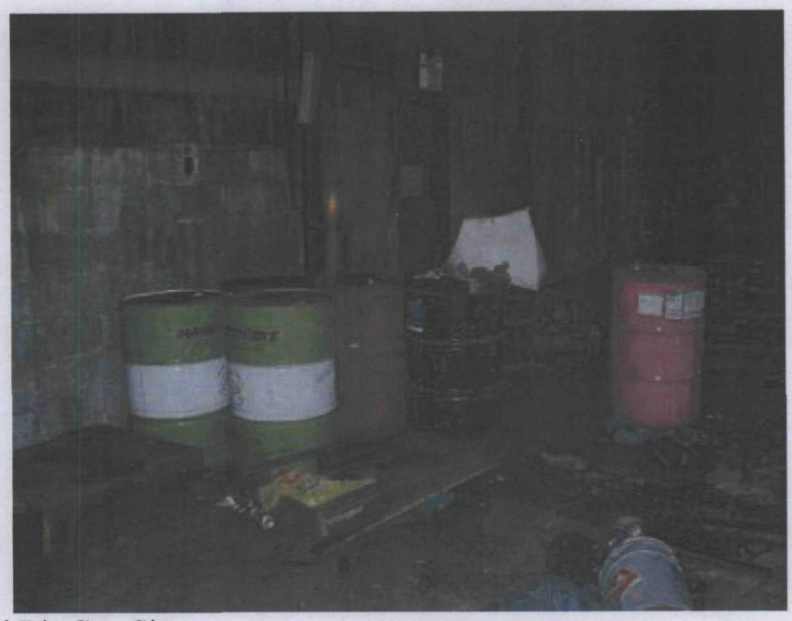
Date: September 30, 2009
Photographer: Randy Kirkland

Site: Cincinnati Die Cast Site
Photograph No.: 2
Direction: Northeast
Subject: Debris piles inside building

Date: September 30, 2009
Photographer: John Sherrard

Site: Cincinnati Die Cast Site
Photograph No.: 3
Direction: Southwest
Subject: In-floor trench filled with debris, oil, and water
Date: September 30, 2009
Photographer: Randy Kirkland

Site: Cincinnati Die Cast Site
Photograph No.: 4
Direction: West
Subject: Used oil UST inside building
Date: September 30, 2009
Photographer: Randy Kirkland



Site: Cincinnati Die Cast Site
Photograph No.: 5
Direction: Northeast
Subject: Debris and drums inside building

Date: September 30, 2009
Photographer: Randy Kirkland

Site: Cincinnati Die Cast Site
Photograph No.: 6
Direction: South
Subject: Open-top rectangular tank containing waste oil

Date: September 30, 2009
Photographer: Randy Kirkland

Site: Cincinnati Die Cast Site
Photograph No.: 7
Direction: Southwest
Subject: Drums outside building
Date: September 30, 2009
Photographer: Randy Kirkland

Site: Cincinnati Die Cast Site
Photograph No.: 8
Direction: East
Subject: Two deteriorated die-casting pressure vessels containing debris and powdered material
Date: September 30, 2009
Photographer: Randy Kirkland

Site: Cincinnati Die Cast Site
Photograph No.: 9 **Date:** September 30, 2009
Direction: East **Photographer:** Randy Kirkland
Subject: Damaged and missing roof above die-casting pressure vessels

Site: Cincinnati Die Cast Site
Photograph No.: 10 **Date:** September 30, 2009
Direction: South **Photographer:** Randy Kirkland
Subject: Deteriorated drum containing unknown solid material along south wall of building

Site: Cincinnati Die Cast Site
Photograph No.: 11 **Date:** September 30, 2009
Direction: East **Photographer:** Randy Kirkland
Subject: WESTON START collecting sample for hazardous waste characterization analysis

Site: Cincinnati Die Cast Site
Photograph No.: 12 **Date:** September 30, 2009
Direction: West **Photographer:** Randy Kirkland
Subject: Unknown material lining inside of die-casting pressure vessel in building

APPENDIX B
DATA VALIDATION REPORT AND VALIDATED ANALYTICAL RESULTS

CINCINNATI DIE CAST SITE
CINCINNATI, OHIO
DATA VALIDATION REPORT

Date: November 6, 2009
Laboratory: TestAmerica Laboratories, Inc. (TestAmerica), Dayton, Ohio
Laboratory Project #: DSJ0037 and DSJ1254
Data Validation Performed By: Lisa Graczyk, Weston Solutions, Inc. (WESTON) Superfund Technical Assessment and Response Team (START)
Weston Analytical Work Order #/TDD #: 20405.016.001.0780.00/S05-0001-0909-024

This data validation report has been prepared by WESTON START under the START III Region V contract. This report documents the data validation for 15 waste samples collected for the Cincinnati Die Cast Site that were analyzed for the following parameters and U.S. Environmental Protection Agency (U.S. EPA) methods:

- Volatile Organic Compounds (VOC) by SW-846 Method 8260B
- Polychlorinated Biphenyls (PCB) by SW-846 Method 8082
- Total Petroleum Hydrocarbons (TPH) by SW-846 Method 8015B and OQA-QAM-025
- Metals by SW-846 Methods 6010B and 7471A
- Toxicity Characteristic Leaching Procedure (TCLP) Metals by SW-846 Methods 1311, 6010B, and 7470A
- Ignitability by SW-846 Method 1010

A level II data package was requested from TestAmerica. The data validation was conducted in general accordance with the U.S. EPA "Contract Laboratory Program National Functional Guidance for Superfund Organic Methods Data Review" dated June 2008 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" dated October 2004. The Attachment contains the results summary sheets with the hand-written qualifiers applied during data validation.

Data Validation Report
Cincinnati Die Cast Site
TestAmerica Laboratories, Inc.
Laboratory Project #: DSJ0037 and DSJ1254

VOCs BY SW-846 METHOD 8260B

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
CDC-WL3-093009	DSJ0037-02	Liquid	9/30/2009	10/14/2009
CDC-WL8-093009	DSJ0037-09	Liquid	9/30/2009	10/13/2009

2. Holding Times

The samples were analyzed within the required holding time limit of 14 days from sample collection.

3. Blanks

A method blank was analyzed with the VOC analyses and was free of target compound contamination above the reporting limit.

4. Surrogate Results

The surrogate recovery results were within the laboratory-established quality control (QC) limits.

5. Laboratory Control Sample (LCS) Results

The LCS recoveries were within laboratory QC limits.

6. Overall Assessment

The VOC data are acceptable for use based on the information received.

Data Validation Report
Cincinnati Die Cast Site
TestAmerica Laboratories, Inc.
Laboratory Project #: DSJ0037 and DSJ1254

PCBs BY U.S. EPA SW-846 METHOD 8082

1. Samples

The following table summarizes the samples for which this data validation was conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
CDC-WL1-093009	DSJ0037-01	Liquid	9/30/2009	10/6/2009
CDC-WL6-093009	DSJ0037-07	Liquid	9/30/2009	10/6/2009
CDC-WL7-093009	DSJ0037-08	Liquid	9/30/2009	10/6/2009
CDC-WS4-093009	DSJ0037-10	Solid	9/30/2009	10/6/2009

2. Holding Times

The samples were analyzed within the required holding time limit of 14 days from sample collection to extraction and 40 days from extraction to analysis for soil and waste samples.

3. Blanks

Method blanks were analyzed with the PCB analyses. The method blanks were free of target compound contamination.

4. Surrogates

The surrogate recoveries were within the laboratory-established QC limits for percent recovery.

5. LCS Results

The LCS recoveries were within the laboratory-established QC limits.

6. Overall Assessment

The PCB data are acceptable for use based on the information received.

Data Validation Report
Cincinnati Die Cast Site
TestAmerica Laboratories, Inc.
Laboratory Project #: DSJ0037 and DSJ1254

TPH BY U.S. EPA SW-846 METHOD 8015B

1. Samples

The following table summarizes the samples for which this data validation was conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
CDC-WL1-093009	DSJ0037-01	Liquid	9/30/2009	10/8/2009
CDC-WL6-093009	DSJ0037-07	Liquid	9/30/2009	10/7/2009 – 10/8/2009
CDC-WL7-093009	DSJ0037-08	Liquid	9/30/2009	10/7/2009 – 10/8/2009

2. Holding Times

The samples were analyzed within the required holding time limit of 14 days from sample collection to extraction and 40 days from extraction to analysis for soil and waste samples.

3. Blanks

Method blanks were analyzed with the TPH analyses. The method blanks were free of target compound contamination.

4. Surrogates

The surrogate recoveries were within the laboratory-established QC limits for percent recovery except in some instances where they could not be recovered fully due to sample dilutions and large concentrations of target analytes in the samples. The poor surrogate recoveries are likely due to matrix interference as identified below.

5. LCS Results

The LCS recoveries were within the laboratory-established QC limits except for diesel range organics (DRO) as analyzed by method OQA-QAM-025. The results for DRO by OQA-QAM-025 were flagged "J" as estimated.

6. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

TestAmerica analyzed a site-specific MS/MSD with the 8015B analyses. The MS/MSD results for DRO were high (greater than the upper QC acceptance limit). Results for DRO in the samples were flagged "J" as estimated due to apparent matrix interference problems.

In addition, poor surrogate recoveries for the OQA-QAM-025 analysis indicate likely matrix interferences as well with DRO analyses. Therefore, all DRO results were flagged "J" as estimated.

7. Overall Assessment

TestAmerica analyzed for TPH using two analyses. For the 8015B analysis, TestAmerica reported GRO with a C6-C12 carbon range, DRO with a C10-C20 carbon range, and DRO with a C20- C34 carbon range. TestAmerica additionally analyzed by the OQA-QAM-025 analysis, to do a full oil range organics analysis with a C10-C44 carbon range. TPH (DRO and oil range organics) detections were high (up to 78 percent) and indicated possible matrix interferences in the analyses requiring qualification.

The TPH data are acceptable for use based on the information received.

Data Validation Report
Cincinnati Die Cast Site
TestAmerica Laboratories, Inc.
Laboratory Project #: DSJ0037 and DSJ1254

TOTAL METALS BY SW-846 METHODS 6010B AND 7471A AND TCLP METALS BY METHODS 1311, 6010B, AND 7470A

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Parameter Analyzed	Date Analyzed
CDC-WL1-093009	DSJ0037-01	Liquid	9/30/2009	Total Metals	10/6/2009 – 10/8/2009
CDC-WS1-093009	DSJ0037-04	Solid	9/30/2009	TCLP Lead Only	10/6/2009
CDC-WS2-093009	DSJ0037-05	Solid	9/30/2009	TCLP Lead Only	10/6/2009
CDC-WS3-093009	DSJ0037-06	Solid	9/30/2009	TCLP Lead Only	10/6/2009
CDC-WS5-093009	DSJ0037-11	Solid	9/30/2009	TCLP Metals	10/6/2009 – 10/7/2009
CDC-WS6-093009	DSJ0037-12	Solid	9/30/2009	TCLP Metals	10/6/2009 – 10/7/2009
CDC-WL9-093009	DSJ0037-13	Liquid	9/30/2009	Total Metals	10/6/2009 – 10/8/2009
CDC-WS7-102709	DSJ1254-01	Solid	10/27/2009	TCLP Metals	10/29/2009 – 10/302009

2. Holding Times

The samples were analyzed within the required holding time limit of 28 days from sample collection to analysis for mercury and 180 days from sample collection to analysis for all other metals.

3. Blank Results

Method blanks were analyzed with the total and TCLP metals analyses and were free of target analyte contamination above the reporting limits.

4. LCS Results

The LCS and LCS duplicate recoveries were within the laboratory-established QC limits for target analytes.

6. Laboratory Duplicate Results

The relative percent differences (RPD) for the laboratory duplicates were within laboratory QC limits.

7. Overall Assessment

The metals data are acceptable for use based on the information received.

GENERAL CHEMISTRY PARAMETERS (ignitability by SW-846 1010)

1. Samples

The following table summarizes the samples for which this data validation is being conducted.

Samples	Lab ID	Matrix	Date Collected	Date Analyzed
CDC-WL3-093009	DSJ0037-02	Liquid	9/30/2009	10/1/2009
CDC-WL4-093009	DSJ0037-03	Liquid	9/30/2009	10/1/2009
CDC-WL8-093009	DSJ0037-09	Liquid	9/30/2009	10/1/2009
CDC-WL10-093009	DSJ0037-14	Liquid	9/30/2009	10/1/2009

2. Holding Times

All holding time limits for ignitability are acceptable.

3. Laboratory Duplicate Results

Laboratory duplicates were analyzed with the ignitability analyses. The duplicate RPDs were within QC limits.

4. Overall Assessment

The ignitability data are acceptable for use based on the information received.

Data Validation Report
Cincinnati Die Cast Site
TestAmerica Laboratories, Inc.
Laboratory Project #: DSJ0037 and DSJ1254

ATTACHMENT

TESTAMERICA
RESULTS SUMMARY WITH QUALIFIERS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

October 20, 2009

Client:

Weston Solutions Inc. (Chicago, IL)
20 North Wacker Drive, Suite 1210
Chicago, IL 60606-2901

Attn: Lisa Graczyk

Work Order: DSJ0037
Project Name: Cincinnati Die Cast
Project Number: 20405.016.001.0780.00

Date Received: 09/30/09

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
CDC-WL1-093009	DSJ0037-01	09/30/09 10:30
CDC-WL3-093009	DSJ0037-02	09/30/09 10:45
CDC-WL4-093009	DSJ0037-03	09/30/09 10:50
CDC-WS1-093009	DSJ0037-04	09/30/09 10:58
CDC-WS2-093009	DSJ0037-05	09/30/09 11:04
CDC-WS3-093009	DSJ0037-06	09/30/09 11:06
CDC-WL6-093009	DSJ0037-07	09/30/09 11:20
CDC-WL7-093009	DSJ0037-08	09/30/09 11:22
CDC-WL8-093009	DSJ0037-09	09/30/09 11:31
CDC-WS4-093009	DSJ0037-10	09/30/09 11:45
CDC-WS5-093009	DSJ0037-11	09/30/09 12:03
CDC-WS6-093009	DSJ0037-12	09/30/09 12:05
CDC-WL9-093009	DSJ0037-13	09/30/09 12:22
CDC-WL10-093009	DSJ0037-14	09/30/09 12:30

Case Narrative: This is a revised report to correct the VOC units from ug/kg to mg/kg, and also to report all samples as non-aqueous, per client request.

Please note that the volatile results for samples DSJ0037-02 (CDC-WL3-093009) and DSJ0037-09 (CDC-WL8-093009) have no dry weight correction. We analyzed for percent dry weight, but both samples completely volatilized when we were drying them. The result for both of those samples was <0.100 % solids, which is also our reporting limit. When this number is the result, our lab reporting system will not calculate dry weight, therefore, the results are mg/kg wet, since the "0" (zero) result in the percent dry weight would skew the calculations all to zero otherwise.

Ohio Certification Number: 4074, 857

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

TestAmerica Dayton
Deidre Taylor
Project Manager

Weston Solutions Inc. (Chicago, IL)	Work Order:	DSJ0037	Received:	09/30/09
20 North Wacker Drive, Suite 1210	Project:	Cincinnati Die Cast	Reported:	10/20/09 15:59
Chicago, IL 60606-2901	Project Number:	20405.016.001.0780.00		
Lisa Graczyk				

Report Approved By:

This report has been electronically signed.

TestAmerica Dayton

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Weston Solutions Inc. (Chicago, IL)	Work Order:	DSJ0037	Received: 09/30/09
20 North Wacker Drive, Suite 1210	Project:	Cincinnati Die Cast	Reported: 10/20/09 15:59
Chicago, IL 60606-2901	Project Number:	20405.016.001.0780.00	
Lisa Graczyk			

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-01 (CDC-WL1-093009 - Non-aqueous)					**Sampled: 09/30/09 10:30**			**Recvd: 09/30/09 17:34**	
General Chemistry Parameters									
% Solids	**48.1**		%	0.100	1	10/02/09 10:00	jlb	9100092	SW 846
Total Metals									
Arsenic	<33.1		mg/kg dry	33.1	5	10/08/09 01:05	MJW	9100193	SW 6010B
Barium	**27.0**		mg/kg dry	6.62	5	10/08/09 01:05	MJW	9100193	SW 6010B
Cadmium	<9.94		mg/kg dry	9.94	5	10/08/09 01:05	MJW	9100193	SW 6010B
Chromium	**19.0**		mg/kg dry	13.2	5	10/08/09 01:05	MJW	9100193	SW 6010B
Lead	**126**		mg/kg dry	26.4	5	10/08/09 01:05	MJW	9100193	SW 6010B
Mercury	**0.256**		mg/kg dry	0.0151	1	10/06/09 16:21	MKH	9100168	SW 7471A
Selenium	<33.1		mg/kg dry	33.1	5	10/08/09 01:05	MJW	9100193	SW 6010B
Silver	<13.2		mg/kg dry	13.2	5	10/08/09 01:05	MJW	9100193	SW 6010B
Organochlorine Pesticides/PCBs									
PCB-1016	<1.91		mg/kg dry	1.91	5	10/06/09 14:25	JBP	9100100	SW 8082
PCB-1221	<1.91		mg/kg dry	1.91	5	10/06/09 14:25	JBP	9100100	SW 8082
PCB-1232	<1.91		mg/kg dry	1.91	5	10/06/09 14:25	JBP	9100100	SW 8082
PCB-1242	<1.91		mg/kg dry	1.91	5	10/06/09 14:25	JBP	9100100	SW 8082
PCB-1248	<1.91		mg/kg dry	1.91	5	10/06/09 14:25	JBP	9100100	SW 8082
PCB-1254	<1.91		mg/kg dry	1.91	5	10/06/09 14:25	JBP	9100100	SW 8082
PCB-1260	<1.91		mg/kg dry	1.91	5	10/06/09 14:25	JBP	9100100	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*113 %*					10/06/09 14:25	JBP	9100100	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*83 %*					10/06/09 14:25	JBP	9100100	SW 8082
Total Petroleum Hydrocarbons									
GRO (C6-C12)	**259**		mg/kg dry	245	250	10/08/09 00:07	eap	9100126	SW 8015B
DRO (C10-C20)	**69300** J	M	mg/kg dry	28100	10	10/08/09 13:57	TWM	9100090	SW 8015B
DRO (C20-C34)	**787000** J	M	mg/kg dry	56200	10	10/08/09 13:57	TWM	9100090	SW 8015B
Surr: o-Terphenyl (44-143%)	*	*Z3*				10/08/09 13:57	TWM	9100090	SW 8015B
Surr: a,a,a-Trifluorotoluene (76-137%)	*114 %*					10/08/09 00:07	eap	9100126	SW 8015B
Surr: 4-Bromofluorobenzene (59-151%)	*88 %*					10/08/09 00:07	eap	9100126	SW 8015B
Diesel Range Organics (DRO)									
Diesel Range Organics (DRO)	**500000** J	A-01a,L1, RL7	mg/kg dry	31000	10	10/06/09 17:30	AHK	9100612	NJ OQA-QAM-025 TPH
Surr: o-Terphenyl (59-118%)	*	*A-01a,RL7, Z3*				10/06/09 17:30	AHK	9100612	OQA-QAM-025 TP
Surr: Chlorobenzene (30-113%)	*	*A-01a,RL7, Z3*				10/06/09 17:30	AHK	9100612	OQA-QAM-025 TP
Physical Parameters by APHA/ASTM/EPA Methods									
% Solids	**48.1**		% by Weight	0.01	1	10/07/09 14:46	SPC	9100721	EPA 160.3

11/4/09

Weston Solutions Inc. (Chicago, IL)
20 North Wacker Drive, Suite 1210
Chicago, IL 60606-2901
Lisa Graczyk

Work Order: DSJ0037
Project: Cincinnati Die Cast
Project Number: 20405.016.001.0780.00

Received: 09/30/09
Reported: 10/20/09 15:59

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-02 (CDC-WL3-093009 - Non-aqueous)					**Sampled: 09/30/09 10:45**		**Recvd: 09/30/09 17:34**		
General Chemistry Parameters									
% Solids	<0.100	H	%	0.100	1	10/19/09 13:00	JLB	9100749	SW 846
Ignitability by Flashpoint	**43.9**		°C	25.0	1	10/01/09 15:20	JLB	9100046	SW 1010 (Mod)
Volatile Organic Compounds by GC/MS									
Acetone	<96.5	RL7	mg/kg wet	96.5	1000	10/14/09 14:07	prb	9100461	SW 8260A
Benzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Bromobenzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Bromochloromethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Bromodichloromethane (Dichlorobromomethane)	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Bromoform	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Bromomethane (Methyl bromide)	<9.65	RL7	mg/kg wet	9.65	1000	10/14/09 14:07	prb	9100461	SW 8260A
2-Butanone (MEK)	<48.3	RL7	mg/kg wet	48.3	1000	10/14/09 14:07	prb	9100461	SW 8260A
tert-Butylbenzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
sec-Butylbenzene	**14.0**	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
n-Butylbenzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Carbon disulfide	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Carbon tetrachloride	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Chlorobenzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Chloroethane	<9.65	RL7	mg/kg wet	9.65	1000	10/14/09 14:07	prb	9100461	SW 8260A
Chloroform	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Chloromethane (Methyl chloride)	<9.65	RL7	mg/kg wet	9.65	1000	10/14/09 14:07	prb	9100461	SW 8260A
4-Chlorotoluene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
2-Chlorotoluene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Dibromochloromethane (Chlorodibromomethane)	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Dibromomethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,2-Dichlorobenzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,4-Dichlorobenzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,3-Dichlorobenzene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Dichlorodifluoromethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,1-Dichloroethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,2-Dichloroethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
cis-1,2-Dichloroethene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
trans-1,2-Dichloroethene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,1-Dichloroethene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,3-Dichloropropane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
2,2-Dichloropropane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,2-Dichloropropane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,1-Dichloropropene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
cis-1,3-Dichloropropene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
trans-1,3-Dichloropropene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Ethylbenzene	**92.6**	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Hexachlorobutadiene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A

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Work Order: DSJ0037
Project: Cincinnati Die Cast
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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-02 (CDC-WL3-093009 - Non-aqueous) - cont.					**Sampled: 09/30/09 10:45**		**Recvd: 09/30/09 17:34**		
Volatile Organic Compounds by GC/MS - cont.									
n-Hexane	<19.3	RL7	mg/kg wet	19.3	1000	10/14/09 14:07	prb	9100461	SW 8260A
2-Hexanone	<48.3	RL7	mg/kg wet	48.3	1000	10/14/09 14:07	prb	9100461	SW 8260A
Isopropylbenzene (Cumene)	**21.4**	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
p-Isopropyltoluene	**15.4**	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Methyl tert-butyl ether	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Methylene chloride	<9.65	RL7	mg/kg wet	9.65	1000	10/14/09 14:07	prb	9100461	SW 8260A
4-Methyl-2-pentanone (MIBK)	<48.3	RL7	mg/kg wet	48.3	1000	10/14/09 14:07	prb	9100461	SW 8260A
n-Propylbenzene	**44.6**	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Styrene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,1,1,2-Tetrachloroethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,1,2,2-Tetrachloroethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Tetrachloroethene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Toluene	**79.5**	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,2,4-Trichlorobenzene	<4.83	RL7,L1	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,1,1-Trichloroethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,1,2-Trichloroethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Trichloroethene	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Trichlorofluoromethane	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
1,2,4-Trimethylbenzene	**2890**	RL7	mg/kg wet	965	1000000	10/14/09 12:15	prb	9100461	SW 8260A
1,3,5-Trimethylbenzene	**73.9**	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Vinyl Acetate	<4.83	RL7	mg/kg wet	4.83	1000	10/14/09 14:07	prb	9100461	SW 8260A
Vinyl chloride	<1.93	RL7	mg/kg wet	1.93	1000	10/14/09 14:07	prb	9100461	SW 8260A
Xylenes, total	**1920**	RL7	mg/kg wet	48.3	10000	10/13/09 08:43	prb	9100461	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*106 %*	*RL7*				10/14/09 14:07	prb	9100461	SW 8260A
Surr: Dibromofluoromethane (80-120%)	*98 %*	*RL7*				10/14/09 14:07	prb	9100461	SW 8260A
Surr: Toluene-d8 (80-120%)	*93 %*	*RL7*				10/14/09 14:07	prb	9100461	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*105 %*	*RL7*				10/14/09 14:07	prb	9100461	SW 8260A
Sample ID: DSJ0037-03 (CDC-WL4-093009 - Non-aqueous)					**Sampled: 09/30/09 10:50**		**Recvd: 09/30/09 17:34**		
General Chemistry Parameters									
Ignitability by Flashpoint	**50.9**		°C	25.0	1	10/01/09 15:20	JLB	9100022	SW 1010 (Mod)
Sample ID: DSJ0037-04 (CDC-WS1-093009 - Non-aqueous)					**Sampled: 09/30/09 10:58**		**Recvd: 09/30/09 17:34**		
TCLP Metals by 1311/6000/7000									
Lead	**0.559**		mg/L	0.400	1	10/06/09 22:48	MJW	9100192	SW 6010B
Extraction	ND		N/A	NA	1	10/06/09 09:40	TAD	9100179	SW 1311
Sample ID: DSJ0037-05 (CDC-WS2-093009 - Non-aqueous)					**Sampled: 09/30/09 11:04**		**Recvd: 09/30/09 17:34**		
TCLP Metals by 1311/6000/7000									
Lead	<0.400		mg/L	0.400	1	10/06/09 22:54	MJW	9100192	SW 6010B
Extraction	ND		N/A	NA	1	10/06/09 09:40	TAD	9100179	SW 1311
Sample ID: DSJ0037-06 (CDC-WS3-093009 - Non-aqueous)					**Sampled: 09/30/09 11:06**		**Recvd: 09/30/09 17:34**		
TCLP Metals by 1311/6000/7000									
Lead	**2.45**		mg/L	0.400	1	10/06/09 22:59	MJW	9100192	SW 6010B

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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-06 (CDC-WS3-093009 - Non-aqueous) - cont.					**Sampled: 09/30/09 11:06**		**Recvd: 09/30/09 17:34**		
TCLP Metals by 1311/6000/7000 - cont.									
Extraction	ND		N/A	NA	1	10/06/09 09:40	TAD	9100179	SW 1311
Sample ID: DSJ0037-07 (CDC-WL6-093009 - Non-aqueous)					**Sampled: 09/30/09 11:20**		**Recvd: 09/30/09 17:34**		
General Chemistry Parameters									
% Solids	**97.8**		%	0.100	1	10/02/09 10:00	jlb	9100092	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<0.983		mg/kg dry	0.983	5	10/06/09 14:45	JBP	9100100	SW 8082
PCB-1221	<0.983		mg/kg dry	0.983	5	10/06/09 14:45	JBP	9100100	SW 8082
PCB-1232	<0.983		mg/kg dry	0.983	5	10/06/09 14:45	JBP	9100100	SW 8082
PCB-1242	<0.983		mg/kg dry	0.983	5	10/06/09 14:45	JBP	9100100	SW 8082
PCB-1248	<0.983		mg/kg dry	0.983	5	10/06/09 14:45	JBP	9100100	SW 8082
PCB-1254	<0.983		mg/kg dry	0.983	5	10/06/09 14:45	JBP	9100100	SW 8082
PCB-1260	<0.983		mg/kg dry	0.983	5	10/06/09 14:45	JBP	9100100	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*99 %*					10/06/09 14:45	JBP	9100100	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*54 %*					10/06/09 14:45	JBP	9100100	SW 8082
Total Petroleum Hydrocarbons									
GRO (C6-C12)	<121		mg/kg dry	121	250	10/07 09 23:07	cap	9100126	SW 8015B
DRO (C10-C20)	**16800** J		mg/kg dry	1420	1	10/08 09 14:39	TWM	9100090	SW 8015B
DRO (C20-C34)	**63700** J		mg/kg dry	2840	1	10/08/09 14:39	TWM	9100090	SW 8015B
Surr: o-Terphenyl (44-143%)	*99 %*					10/08/09 14:39	TWM	9100090	SW 8015B
Surr: a,a,a-Trifluorotoluene (76-137%)	*113 %*					10/07 09 23:07	cap	9100126	SW 8015B
Surr: 4-Bromofluorobenzene (59-151%)	*83 %*					10/07 09 23:07	cap	9100126	SW 8015B
Diesel Range Organics (DRO)									
Diesel Range Organics (DRO)	**75000** J	A-01a,L1, RL7	mg/kg dry	7500	5	10/06/09 18:00	AHK	9100612	NJ OQA-QAM-025 TPH
Surr: o-Terphenyl (59-118%)	*	*A-01a,RL7, Z3*				10/06/09 18:00	AHK	9100612	OQA-QAM-025 TP
Surr: Chlorobenzene (30-113%)	*	*A-01a,RL7, Z3*				10/06/09 18:00	AHK	9100612	OQA-QAM-025 TP
Physical Parameters by APHA/ASTM/EPA Methods									
% Solids	**97.8**		% by Weight	0.01	1	10/07/09 14:46	SPC	9100721	EPA 160.3
Sample ID: DSJ0037-08 (CDC-WL7-093009 - Non-aqueous)					**Sampled: 09/30/09 11:22**		**Recvd: 09/30/09 17:34**		
General Chemistry Parameters									
% Solids	**95.7**		%	0.100	1	10/02/09 10:00	jlb	9100092	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<0.886		mg/kg dry	0.886	5	10/06/09 15:04	JBP	9100100	SW 8082
PCB-1221	<0.886		mg/kg dry	0.886	5	10/06/09 15:04	JBP	9100100	SW 8082
PCB-1232	<0.886		mg/kg dry	0.886	5	10/06/09 15:04	JBP	9100100	SW 8082
PCB-1242	<0.886		mg/kg dry	0.886	5	10/06/09 15:04	JBP	9100100	SW 8082
PCB-1248	<0.886		mg/kg dry	0.886	5	10/06/09 15:04	JBP	9100100	SW 8082
PCB-1254	<0.886		mg/kg dry	0.886	5	10/06/09 15:04	JBP	9100100	SW 8082
PCB-1260	<0.886		mg/kg dry	0.886	5	10/06/09 15:04	JBP	9100100	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*110 %*					10/06/09 15:04	JBP	9100100	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*54 %*					10/06/09 15:04	JBP	9100100	SW 8082
Total Petroleum Hydrocarbons									

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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-08 (CDC-WL7-093009 - Non-aqueous) - cont.					**Sampled: 09/30/09 11:22**			**Recvd: 09/30/09 17:34**	
Total Petroleum Hydrocarbons - cont.									
GRO (C6-C12)	<120		mg/kg dry	120	250	10/07/09 23:37	eap	9100126	SW 8015B
DRO (C10-C20)	**12200** J		mg/kg dry	1330	1	10/08/09 15:00	TWM	9100090	SW 8015B
DRO (C20-C34)	**67500** J		mg/kg dry	2660	1	10/08/09 15:00	TWM	9100090	SW 8015B
Surr: o-Terphenyl (44-143%)	*147 %*	*A-01*				10/08/09 15:00	TWM	9100090	SW 8015B
Surr: a,a,a-Trifluorotoluene (76-137%)	*112 %*					10/07/09 23:37	eap	9100126	SW 8015B
Surr: 4-Bromofluorobenzene (59-151%)	*80 %*					10/07/09 23:37	eap	9100126	SW 8015B
Diesel Range Organics (DRO)									
Diesel Range Organics (DRO)	**80000** J	A-01a,L1, RL7	mg/kg dry	7500	5	10/06/09 18:29	AHK	9100612	NJ OQA-QAM-025 TPH
Surr: o-Terphenyl (59-118%)	*	*A-01a,RL7, Z3*				10/06/09 18:29	AHK	9100612	OQA-QAM-025 TP
Surr: Chlorobenzene (30-113%)	*	*A-01a,RL7, Z3*				10/06/09 18:29	AHK	9100612	OQA-QAM-025 TP
Physical Parameters by APHA/ASTM/EPA Methods									
% Solids	**95.7**		% by Weight	0.01	1	10/07/09 14:46	SPC	9100721	EPA 160.3
Sample ID: DSJ0037-09 (CDC-WL8-093009 - Non-aqueous)					**Sampled: 09/30/09 11:31**			**Recvd: 09/30/09 17:34**	
General Chemistry Parameters									
% Solids	<0.100	H	%	0.100	1	10/19/09 13:00	JLB	9100749	SW 846
Ignitability by Flashpoint	**60.9**		°C	25.0	1	10/01/09 15:20	JLB	9100046	SW 1010 (Mod)
Volatile Organic Compounds by GC/MS									
Acetone	<4.05	RL1	mg/kg wet	4.05	42	10/13/09 08:14	prb	9100461	SW 8260A
Benzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Bromobenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Bromochloromethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Bromodichloromethane (Dichlorobromomethane)	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Bromoform	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Bromomethane (Methyl bromide)	<0.405	RL1	mg/kg wet	0.405	42	10/13/09 08:14	prb	9100461	SW 8260A
2-Butanone (MEK)	<2.03	RL1	mg/kg wet	2.03	42	10/13/09 08:14	prb	9100461	SW 8260A
tert-Butylbenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
sec-Butylbenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
n-Butylbenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Carbon disulfide	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Carbon tetrachloride	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Chlorobenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Chloroethane	<0.405	RL1	mg/kg wet	0.405	42	10/13/09 08:14	prb	9100461	SW 8260A
Chloroform	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Chloromethane (Methyl chloride)	<0.405	RL1	mg/kg wet	0.405	42	10/13/09 08:14	prb	9100461	SW 8260A
4-Chlorotoluene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
2-Chlorotoluene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Dibromochloromethane (Chlorodibromomethane)	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Dibromomethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,2-Dichlorobenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,4-Dichlorobenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A

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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-09 (CDC-WL8-093009 - Non-aqueous) - cont.					**Sampled: 09/30/09 11:31**		**Recvd: 09/30/09 17:34**		
Volatile Organic Compounds by GC/MS - cont.									
1,3-Dichlorobenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Dichlorodifluoromethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,1-Dichloroethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,2-Dichloroethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
cis-1,2-Dichloroethene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
trans-1,2-Dichloroethene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,1-Dichloroethene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,3-Dichloropropane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
2,2-Dichloropropane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,2-Dichloropropane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,1-Dichloropropene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
cis-1,3-Dichloropropene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
trans-1,3-Dichloropropene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Ethylbenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Hexachlorobutadiene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
n-Hexane	<0.811	RL1	mg/kg wet	0.811	42	10/13/09 08:14	prb	9100461	SW 8260A
2-Hexanone	<2.03	RL1	mg/kg wet	2.03	42	10/13/09 08:14	prb	9100461	SW 8260A
Isopropylbenzene (Cumene)	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
p-Isopropyltoluene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Methyl tert-butyl ether	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Methylene chloride	<0.405	RL1	mg/kg wet	0.405	42	10/13/09 08:14	prb	9100461	SW 8260A
4-Methyl-2-pentanone (MIBK)	<2.03	RL1	mg/kg wet	2.03	42	10/13/09 08:14	prb	9100461	SW 8260A
n-Propylbenzene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Styrene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,1,1,2-Tetrachloroethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,1,2,2-Tetrachloroethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Tetrachloroethene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Toluene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,2,4-Trichlorobenzene	<0.203	RL1,L1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,1,1-Trichloroethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,1,2-Trichloroethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Trichloroethene	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Trichlorofluoromethane	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,2,4-Trimethylbenzene	**1.95**	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
1,3,5-Trimethylbenzene	**0.557**	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Vinyl Acetate	<0.203	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Vinyl chloride	<0.0811	RL1	mg/kg wet	0.0811	42	10/13/09 08:14	prb	9100461	SW 8260A
Xylenes, total	**1.27**	RL1	mg/kg wet	0.203	42	10/13/09 08:14	prb	9100461	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*106 %*	*RL1*				10/13/09 08:14	prb	9100461	SW 8260A
Surr: Dibromofluoromethane (80-120%)	*95 %*	*RL1*				10/13/09 08:14	prb	9100461	SW 8260A
Surr: Toluene-d8 (80-120%)	*98 %*	*RL1*				10/13/09 08:14	prb	9100461	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*103 %*	*RL1*				10/13/09 08:14	prb	9100461	SW 8260A

Weston Solutions Inc. (Chicago, IL)	Work Order:	DSJ0037	Received: 09/30/09
20 North Wacker Drive, Suite 1210	Project:	Cincinnati Die Cast	Reported: 10/20/09 15:59
Chicago, IL 60606-2901	Project Number:	20405.016.001.0780.00	
Lisa Graczyk			

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-10 (CDC-WS4-093009 - Non-aqueous)					**Sampled: 09/30/09 11:45**			**Recvd: 09/30/09 17:34**	
General Chemistry Parameters									
% Solids	**65.2**		%	0.100	1	10/02/09 10:00	jlb	9100092	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<0.153		mg/kg dry	0.153	1	10/06/09 17:40	JBP	9100043	SW 8082
PCB-1221	<0.153		mg/kg dry	0.153	1	10/06/09 17:40	JBP	9100043	SW 8082
PCB-1232	<0.153		mg/kg dry	0.153	1	10/06/09 17:40	JBP	9100043	SW 8082
PCB-1242	<0.153		mg/kg dry	0.153	1	10/06/09 17:40	JBP	9100043	SW 8082
PCB-1248	<0.153		mg/kg dry	0.153	1	10/06/09 17:40	JBP	9100043	SW 8082
PCB-1254	<0.153		mg/kg dry	0.153	1	10/06/09 17:40	JBP	9100043	SW 8082
PCB-1260	<0.153		mg/kg dry	0.153	1	10/06/09 17:40	JBP	9100043	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*102 %*					10/06/09 17:40	JBP	9100043	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*74 %*					10/06/09 17:40	JBP	9100043	SW 8082
Sample ID: DSJ0037-11 (CDC-WS5-093009 - Non-aqueous)					**Sampled: 09/30/09 12:03**			**Recvd: 09/30/09 17:34**	
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	10/06/09 23:05	MJW	9100192	SW 6010B
Barium	**1.57**		mg/L	0.100	1	10/06/09 23:05	MJW	9100192	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	10/06/09 23:05	MJW	9100192	SW 6010B
Chromium	<0.200		mg/L	0.200	1	10/06/09 23:05	MJW	9100192	SW 6010B
Lead	<0.400		mg/L	0.400	1	10/06/09 23:05	MJW	9100192	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	10/07/09 14:22	MKH	9100201	SW 7470A
Selenium	<0.500		mg/L	0.500	1	10/06/09 23:05	MJW	9100192	SW 6010B
Silver	<0.200		mg/L	0.200	1	10/06/09 23:05	MJW	9100192	SW 6010B
Extraction	ND		N/A	NA	1	10/06/09 09:40	TAD	9100179	SW 1311
Sample ID: DSJ0037-12 (CDC-WS6-093009 - Non-aqueous)					**Sampled: 09/30/09 12:05**			**Recvd: 09/30/09 17:34**	
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	10/06/09 23:11	MJW	9100192	SW 6010B
Barium	**0.191**		mg/L	0.100	1	10/06/09 23:11	MJW	9100192	SW 6010B
Cadmium	**1.25**		mg/L	0.150	1	10/06/09 23:11	MJW	9100192	SW 6010B
Chromium	**0.234**		mg/L	0.200	1	10/06/09 23:11	MJW	9100192	SW 6010B
Lead	<0.400		mg/L	0.400	1	10/06/09 23:11	MJW	9100192	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	10/07/09 14:29	MKH	9100201	SW 7470A
Selenium	<0.500		mg/L	0.500	1	10/06/09 23:11	MJW	9100192	SW 6010B
Silver	<0.200		mg/L	0.200	1	10/06/09 23:11	MJW	9100192	SW 6010B
Extraction	ND		N/A	NA	1	10/06/09 09:40	TAD	9100179	SW 1311
Sample ID: DSJ0037-13 (CDC-WL9-093009 - Non-aqueous)					**Sampled: 09/30/09 12:22**			**Recvd: 09/30/09 17:34**	
General Chemistry Parameters									
% Solids	**62.5**		%	0.100	1	10/02/09 10:00	jlb	9100092	SW 846
Total Metals									
Arsenic	<51.3	RL3	mg/kg dry	51.3	10	10/08/09 13:30	MJW	9100193	SW 6010B
Barium	<10.3	RL3	mg/kg dry	10.3	10	10/08/09 13:30	MJW	9100193	SW 6010B
Cadmium	<15.4	RL3	mg/kg dry	15.4	10	10/08/09 13:30	MJW	9100193	SW 6010B
Chromium	<20.5	RL3	mg/kg dry	20.5	10	10/08/09 13:30	MJW	9100193	SW 6010B

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20 North Wacker Drive, Suite 1210	Project:	Cincinnati Die Cast		Reported:	10/20/09 15:59
Chicago, IL 60606-2901	Project Number:	20405.016.001.0780.00			
Lisa Graczyk					

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0037-13 (CDC-WL9-093009 - Non-aqueous) - cont.					**Sampled: 09/30/09 12:22**			**Recvd: 09/30/09 17:34**	
Total Metals - cont.									
Lead	<41.0	RL3	mg/kg dry	41.0	10	10/08/09 13:30	MJW	9100193	SW 6010B
Mercury	<0.0131		mg/kg dry	0.0131	1	10/06/09 16:24	MKH	9100168	SW 7471A
Selenium	<51.3	RL3	mg/kg dry	51.3	10	10/08/09 13:30	MJW	9100193	SW 6010B
Silver	<20.5	RL3	mg/kg dry	20.5	10	10/08/09 13:30	MJW	9100193	SW 6010B
Sample ID: DSJ0037-14 (CDC-WL10-093009 - Water - NonPotable)					**Sampled: 09/30/09 12:30**			**Recvd: 09/30/09 17:34**	
General Chemistry Parameters									
Ignitability by Flashpoint	33.9		°C	25.0	1	10/01/09 15:20	JLB	9100046	SW 1010 (Mod)

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339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Weston Solutions Inc. (Chicago, IL)	Work Order:	DSJ0037	Received:	09/30/09
20 North Wacker Drive, Suite 1210	Project:	Cincinnati Die Cast	Reported:	10/20/09 15:59
Chicago, IL 60606-2901	Project Number:	20405.016.001.0780.00		
Lisa Graczyk				

CERTIFICATION SUMMARY

Subcontracted Laboratories

TestAmerica - King of Prussia Pennsylvania Cert #002

1008 West Ninth Avenue - King of Prussia, PA 19406

Method Performed: EPA 160.3
Samples: DSJ0037-01, DSJ0037-07, DSJ0037-08

Method Performed: NJ OQA-QAM-025 TPH
Samples: DSJ0037-01, DSJ0037-07, DSJ0037-08

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

DATA QUALIFIERS AND DEFINITIONS

A-01	Surrogate is out of limits due to sample matrix.
A-01a	The Carbon range for QAM-DRO is C10 thru C44.
H	Sample analysis performed past method-specified holding time.
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).
RL1	Reporting limit raised due to sample matrix effects.
RL3	Reporting limit raised due to high concentrations of non-target analytes.
RL7	Sample required dilution due to high concentrations of target analyte.
S3	Post digestion spike is out of acceptance limits for this analyte
Z3	The sample required a dilution due to the nature of the sample matrix. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.